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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,048	08/15/2001	Yoshikazu Kanazawa	1614.1179	9922
21171	7590	06/29/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			GUHARAY, KARABI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,048

Applicant(s)

KANAZAWA ET AL.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears in the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 March 2004 has been entered.

New claims 14-21 are added.

Specification

The amendment, filed on 26 March 2004, is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Original specification and drawings does not state or show a plasma display wherein first electrode part comprises a tip part having a convex shape and the second discharge electrode part comprises a second tip part having a convex shape, as claimed in claim 19, and the partition walls are formed with a pitch of 360 micron, as claimed in amended claims 9 & 12.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 9-10, 12-15 & 19 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding amended claim 9 & 12, the new limitation of "a pitch of 360 micron is not supported by original specification.

Claims 10 and 13 are dependent on claim 9 & 12 respectively.

Regarding claims 14 & 15, the limitation of "60 micron or greater" is not supported by the original disclosure.

Regarding claim 19, original specification and drawings does not state or show a plasma display wherein first electrode part comprises a tip part having a convex shape and the second discharge electrode part comprises a second tip part having a convex shape.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 5-8, 11, 16-17, 19-20 & 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Hashimoto (US 6646377).

Regarding claims 1, 11 & 16, Hashimoto discloses a plasma display device (Fig 4 & Fig 35) having first and second substrates (11, 21) and a discharge gas filled therebetween (lines 38-39 of column 1), the plasma display device comprising, first and second electrodes (X, Y of Fig 1) extending parallel to each other on a the first substrate (11), and first and second discharge electrode parts (12) extending from the first and second electrodes (X, Y) respectively, so as to oppose each other, wherein a discharge gap (D) of a substantially constant width is formed between opposing first and second discharge electrode parts, the discharge gap being defined by first and second edge parts of the opposing first and second discharge electrode parts (12) respectively, the first and second edge parts have lengths longer than widths of the first and second discharge electrode parts, the widths being measured in directions in which the first and second electrodes extend, respectively (see Fig 1), the first edge part (slat side surface of 12) forms an angle θ (here 45 degree) with respect to the direction in which the first electrode (X) extends, the angle θ satisfying a condition $30^{\circ} \leq \theta \leq 60^{\circ}$, and each of the first and second edge parts (branch parts 12) is of a rectilinear configuration so that a distance between the first and second edge parts is substantially uniform (lines 16-35 of column 6). The first and second edge parts are defined by plurality of straight line segments as claimed in claim 11 forming angles with respect to the respective directions in which the first and second electrodes extend (see Fig 15).

But, Hashimoto does not explicitly disclose that the width of each of the first and second discharge electrode parts is 120 micron or less. However, Hashimoto clearly shows that the width of the branch electrode 12 is almost 1/3 of the discharge space H, and substantially equal to the width of the ribs (29), which is conventionally about 60 micron. Thus teaches implicitly that the width of each of the first and second discharge electrode parts is 120 micron or less.

Regarding claim 3, Hashimoto discloses that the first edge part (12) extends obliquely with respect to the direction in which the first electrode (X) extends, and the second edge part (12) extends substantially parallel to the first edge part and obliquely with respect to the direction in which the second electrode (Y) extends (lines 21-27 of column 3, and see Fig 1).

Regarding claim 5, Hashimoto discloses that the first and second edge parts (branch 12) are defined by a plurality of sides forming angles with respect to the direction in which the first and second electrode extend respectively (see Fig 14 & 15).

Regarding claims 6 & 19, Hashimoto discloses that the first edge part (branch part 12) has a convex shape, and the second edge part has a concave shape matching the first edge part (see Fig 15).

Regarding claim 7, Hashimoto discloses that the first and second electrodes (X, Y) are repeatedly formed alternately, and the first discharge electrode parts (12) extend from first and second parallel sides of the first electrode (X) and the second discharge electrode parts (12) extend from first and second parallel sides of the second electrode Y (see Fig 15).

Regarding claim 8, Hashimoto discloses that the first discharge electrode edge parts includes first and second electrode patterns extending from the first and second sides of the first electrode (X) respectively, the first electrode pattern forming a first discharge gap with one of the second discharge electrode parts which one opposes the first electrode pattern, the second electrode pattern forming a second discharge gap with one of the second discharge electrode pads which one opposes the second electrode pattern, the second discharge gap being substantially equal to the first discharge gap in size (see Fig 14).

Regarding claim 17, Hashimoto discloses that the first and second edge part is a single straight line or a plurality of straight line segments (see Fig 1 or Fig 14).

Regarding claim 20, Hashimoto discloses that each of the first and second edge parts comprises a tip part having angularly bent ends and each of the first and second edge parts comprises a plurality of oblique lines of the tip part (see Fig 14 & Fig 15).

Regarding claim 21, Hashimoto discloses a plasma display device (Fig 4 & Fig 35) having first and second substrates (11, 21) and a discharge gas filled there-between (lines 38-39 of column 1), the plasma display device comprising, first and second electrodes (X, Y of Fig 1) extending parallel to each other on a the first substrate (11), and first and second discharge electrode parts (12) extending from the first and second electrodes (X, Y) respectively, so that a discharge gap (D) is formed between first and second edge parts, the first edge part is inclined at a first angle with respect to a first direction in which the first electrode extends (see Fig 1), the first angle being determined so that a length of the first edge part minimizes a discharge starting voltage

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and a drive current for sustaining discharge and is longer than a width of the first electrode part measured in first direction (such inclined or oblique branch electrode structure reduces power loss , in other words reduces the starting voltage and drive current, see lines 45-63 of column 8), and the second edge part is inclined at a second angle with respect to a second direction in which the second electrode extends, the second angle being determined so that a length of the first edge part minimizes a discharge starting voltage and a drive current for sustaining discharge, and is longer than a width of the second discharge electrode part in the second direction (see, Fig 1, Fig 10 , Fig 14, Fig 15), first and second edge parts are substantially parallel to each other so that a distance there between is uniform (line 22-31 of column 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 6646377).

Referring to claim 2, Hashimoto discloses a plasma display device of claim 1. It is unclear as to whether Hashimoto disclose a plasma display wherein the length of the

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discharge gap is greater than or equal to 150 microns and shorter than 200 microns.

The optimization of prior art structure is generally considered to be within the skill of the art. Furthermore it is noted that on page 5, lines 12-21 in reference to the prior art Fig 3B, the applicant admits that the length of the discharge gap of a conventional display is 160 microns.

Referring to claim 18, Hashimoto discloses that each of the first and second discharge electrode parts comprises a tip part having a substantially triangular shape (see Fig 15) but does not disclose specific right triangular shape and edge parts is a hypotenuse of the tip part.

However, the claimed right triangular shape is a matter of choice, which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration is significant.

Response to Arguments

Applicant's arguments, filed on 26 March 2004 have been considered but are moot in view of the new ground(s) of rejection.

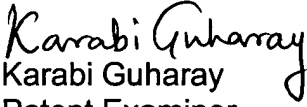
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karabi Guharay
Patent Examiner
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